

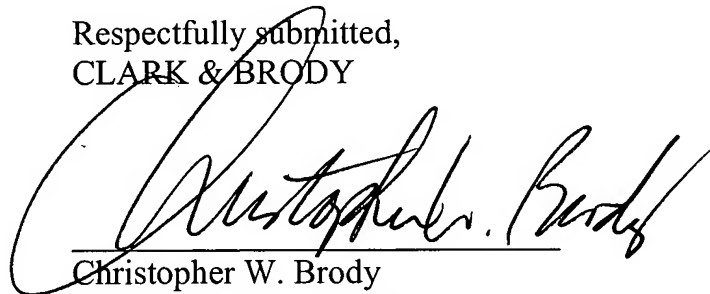


### REMARKS

Applicant requests that omitted specification pages 4, 5 and 21 (attached herewith) be added to the present application. Since this application was filed as a continuation application and the subject matter of the parent application was incorporated in its entirety by reference, submission of the missing pages does not add new matter to the application and entry is respectfully requested.

Applicants respectfully submit that there is no fee required for this submission, however, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,  
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have the drawbacks of being toxic and/or not biodegradable.



[0007] Oil spill dispersant compositions employing a wide variety of surfactants are found in the patent literature. For example, U.S. Patent No. 4,597,893 to Byford et al. teaches a dispersant composition for treating oil on water. The composition comprises a nonionic surfactant, an anionic surfactant, a solvent, and water. The nonionic surfactant can be one or more polyalkoxylated (5 to 55 moles) sorbitol or sorbitan fatty acid esters containing 40 moles of ethylene oxide and having a hydrophilic/lipophilic balance (HLB) of 9 to 12. The nonionic surfactant comprises 8 to 58 weight percent of the overall composition. The anionic surfactant is preferably a salt of an alkyl aryl sulfonate. The solvent is a five- to ten-carbon primary alcohol, glycol, or glycol-ether, for example, ethylene glycol monobutyl ether. A water component also may be added as desired.

[0008] U.S. Patent No. 3,793,2118 to Canevari et al. teaches dispersal of oil slicks on water with a dispersant comprising a  $C_{10}$  to  $C_{12}$  aliphatic monocarboxylic acid or sorbitan monoester thereof, a sorbitan monoester polyoxyalkylene adduct, and a dialkyl sulfosuccinate salt. The dispersant can be applied to an oil slick with or without a solvent, such as, for example, paraffin (Isopar). The total hydrophilic/lipophilic balance of these compositions is between 9 and 11.5.

[0009] U.S. Patent No. 4,382,873 to Gatellier et al. teaches a dispersant and biodegradant for oil that has been spilled on water. The dispersant contains (1) an assimilable nitrogen compound derived from melarnine, (2) a hydroxy-providing compound such as a monoalcohol or a mono alkyl derivative of ethylene glycol, (3) an assimilable phosphorus derivative and (4) at least two of the following surface-active agents: sorbitan monolaurate, sorbitan trioleate, sorbitan monooleate, anhydrosorbitol monooleate, an ethoxylated primary alcohol ( $C_{12}$ - $C_{13}$ ), or PEG (300-400) mono- or di-oleate.

[0010] U.S. Patent No. 3,959,134 to Canevari teaches an oil collection agent that surrounds and collects oil that has been spilled on water. The agent is a mixture of a  $C_{10}$  to  $C_{20}$  saturated or unsaturated fatty acid or the sorbitan monoester thereof (e.g., SPANN), and a nonpolar solvent such as isoparaffin.

[0011] U.S. Patent No. 4,146,470 to Mohan et al. discloses a combination of microorganisms and surfactants to disperse and digest oil slicks. The microorganism is preferably *Micrococcus certificans*. The surfactant mixture contains 15% to 75% by weight of (1) sorbitan monooleate (SPAN 80) and polyoxyethylene sorbitan monooleate (TWEEN 80), or (2) an alkyl glycoside, or a mixture of (1) and (2). These surfactants may or may not be diluted in a paraffin solvent (Isopar). The HLB of the resulting composition is between 6.9 and 9.5.

manufacturers, and therefore, applicant hereby incorporates by reference the following publication describing the properties of ICI's Hypermer® Polymeric Surfactants and Dispersants for Industrial Applications", ICI Americas Inc., 1994. Regardless of the identity of their supplier, however, such emulsion-stabilizing agents may constitute from about 1.0 to about 4.0 weight percent of the overall manufactured compositions of this patent disclosure.

[0032]      2.      **Particularly Preferred Methods of Formulating and Deploying Compositions**

To prepare the emulsifying compositions of the present invention, the Primary surfactant composition is preferably made by first combining the first and the second ethoxylated sorbitol oleates under light, nonaerating agitation. If desired, the emulsion-stabilizing agent and/or the polyethylene glycol are combined under moderately high shear conditions and then blended with the primary surfactant composition. In some of the more preferred embodiments of this invention, the secondary surfactant is added to the primary surfactant composition by blending it under nonaerating shear conditions. Finally, the water component, if desired, is preferably added by blending under low shear conditions. Again, it should be understood that additional water can be incorporated into the manufactured compositions of this patent disclosure at a later time, e.g., just prior to use, so that smaller volumes of the manufactured